

Mineral Industry Surveys

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SILICON IN APRIL 2006

Preliminary data for April 2006 indicate that domestic production and net shipments of silicon ferroalloys, on a gross-weight basis, decreased slightly and increased by 2%, respectively, compared with those in March 2006, according to the U.S. Geological Survey. Stocks decreased by 4% compared with the revised amounts of the prior month (24,400 metric tons). Stocks included adjustments in inventory and in-plant consumption of ferrosilicon to produce magnesium ferrosilicon and other miscellaneous alloys. Production-related statistics for silicon metal were concealed to avoid disclosing company proprietary data now that there are only two producers of silicon metal in the United States.

Based on a gross-weight comparison of March 2006 export data (table 2) with those of February 2006, ferrosilicon exports

increased by 43%, owing to increases in both ferrosilicon trade categories. Silicon metal exports increased by 13%, owing to increases in the 99.00% to 99.99% and more than 99.99% silicon metal trade categories.

Based on a gross-weight comparison of March 2006 import data (table 3) with those of the prior month, ferrosilicon imports increased by 16%, owing primarily to an increase in the ferrosilicon, 55% to 80% silicon, other, trade category. Silicon metal imports increased by 36% over the same period, primarily because of increases in the 99.00% to 99.99% silicon and "other" silicon metal trade categories.

Prices, cents per pound, silicon content

| | <u>50% Ferrosilicon¹</u> | <u>75% Ferrosilicon²</u> | <u>Silicon Metal²</u> |
|-----------------|-------------------------------------|-------------------------------------|----------------------------------|
| April 6 | 61.00-63.00 | 48.00-51.00 | 73.00-76.00 |
| April 13 | 61.00-63.00 | 48.00-51.00 | 73.00-76.00 |
| April 20 | 61.00-63.00 | 49.00-52.00 | 73.00-76.00 |
| April 27 | 62.00-65.00 | 49.00-52.00 | 73.00-76.00 |

¹Source: Ryan's Notes, North American transaction price.

²Source: Platts Metals Week, dealer import price.

TABLE 1
U.S. PRODUCTION, SHIPMENTS, AND PRODUCER STOCKS OF SILICON ALLOYS AND METAL IN 2006^{1,2,3}

(Metric tons)

| Material | Gross production ⁴ | | Net shipments | | Stocks, April 30 |
|--|-------------------------------|---------------------|---------------|---------------------|---------------------|
| | April | Year to date | April | Year to date | |
| Ferrosilicon, all grades ^{5,6} | 20,200 | 81,300 ^r | 17,300 | 66,800 ^r | 23,400 |
| Silicon metal, excludes semiconductor grades | W | W | W | W | W |

^rRevised. W Withheld to avoid disclosing company proprietary data.

¹Data are rounded to no more than three significant digits.

²Includes U.S. Geological Survey estimates.

³Data for silvery pig iron (less than 25% silicon) withheld to avoid disclosing company proprietary data.

⁴Includes in-plant consumption, as in production of magnesium ferrosilicon and other miscellaneous alloys.

⁵Ferrosilicon categories were aggregated to avoid disclosing company proprietary data.

⁶Includes miscellaneous silicon alloys.

TABLE 2
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN MARCH 2006^{1,2}

(Metric tons, unless otherwise specified)

| Country | Gross weight | Contained weight | Value | Year to date | | |
|------------------------|--------------|------------------|-----------|-----------------|------------------|---------------------|
| | | | | Gross weight | Contained weight | Value |
| Ferrosilicon: | | | | | | |
| More than 55% silicon: | | | | | | |
| Canada | 384 | 231 | \$386,000 | 956 | 574 | \$983,000 |
| Colombia | -- | -- | -- | 12 | 9 | 17,600 |
| Malaysia | -- | -- | -- | 11 ^r | 8 ^r | 15,600 ^r |
| Mexico | 133 | 80 | 157,000 | 345 | 209 | 440,000 |
| Total | 517 | 310 | 544,000 | 1,330 | 800 | 1,460,000 |
| Other ferrosilicon: | | | | | | |
| Canada | 273 | 137 | 286,000 | 677 | 339 | 676,000 |
| Colombia | -- | -- | -- | 26 | 12 | 37,100 |
| Indonesia | 5 | 3 | 6,690 | 13 | 7 | 16,000 |
| Mexico | 88 | 44 | 116,000 | 232 | 116 | 304,000 |
| Spain | 8 | 4 | 9,360 | 8 | 4 | 9,360 |
| Switzerland | 34 | 17 | 26,700 | 34 | 17 | 26,700 |
| Total | 408 | 204 | 445,000 | 990 | 494 | 1,070,000 |
| Total ferrosilicon | 925 | 514 | 988,000 | 2,320 | 1,290 | 2,520,000 |

See footnotes at end of table.

TABLE 2--Continued
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN MARCH 2006^{1,2}

(Metric tons, unless otherwise specified)

| Country | Gross weight | Contained weight | Value | Year to date | | |
|----------------------------------|--------------|--------------------|--------------|--------------|--------------------|--------------|
| | | | | Gross weight | Contained weight | Value |
| Metal: | | | | | | |
| More than 99.99% silicon: | | | | | | |
| China | 214 | XX | \$19,500,000 | 421 | XX | \$32,500,000 |
| Finland | 13 | XX | 537,000 | 35 | XX | 1,430,000 |
| Germany | 121 | XX | 7,380,000 | 488 | XX | 26,900,000 |
| Italy | 9 | XX | 939,000 | 33 | XX | 2,830,000 |
| Japan | 650 | XX | 51,300,000 | 1,870 | XX | 145,000,000 |
| Korea, Republic of | 114 | XX | 10,500,000 | 324 | XX | 27,300,000 |
| Malaysia | 7 | XX | 965,000 | 20 | XX | 2,850,000 |
| Norway | 229 | XX | 10,700,000 | 590 | XX | 28,600,000 |
| Taiwan | 46 | XX | 3,320,000 | 116 | XX | 7,330,000 |
| United Kingdom | 10 | XX | 1,880,000 | 38 | XX | 4,240,000 |
| Other (34 countries) | 14 | XX | 1,130,000 | 71 | XX | 4,150,000 |
| Total | 1,430 | 1,430 ^e | 108,000,000 | 4,000 | 4,000 ^e | 283,000,000 |
| 99.00% - 99.99% silicon: | | | | | | |
| Belarus | -- | -- | -- | 34 | 34 | 37,700 |
| Brazil | 97 | 96 | 247,000 | 226 | 224 | 576,000 |
| China | 134 | 133 | 383,000 | 164 | 163 | 431,000 |
| Costa Rica | 4 | 4 | 9,030 | 6 | 6 | 15,000 |
| Germany | -- | -- | -- | 294 | 291 | 853,000 |
| India | -- | -- | -- | 52 | 51 | 150,000 |
| Japan | 9 | 9 | 13,300 | 25 | 24 | 28,300 |
| Mexico | -- | -- | -- | 7 | 7 | 10,100 |
| Singapore | -- | -- | -- | 4 | 4 | 5,490 |
| United Kingdom | 6 | 6 | 8,080 | 11 | 11 | 15,100 |
| Other (Sweden) | 7 | 7 | 9,790 | 7 | 7 | 9,790 |
| Total | 256 | 254 | 670,000 | 830 | 823 | 2,130,000 |
| Other silicon: | | | | | | |
| Brazil | -- | -- | -- | 38 | 37 | 50,200 |
| Canada | 43 | 42 | 48,300 | 94 | 92 | 124,000 |
| China | 222 | 215 | 292,000 | 267 | 259 | 352,000 |
| Italy | -- | -- | -- | 12 | 12 | 16,000 |
| Japan | 9 | 9 | 12,000 | 144 | 140 | 246,000 |
| Korea, Republic of | 141 | 137 | 186,000 | 1,010 | 985 | 1,340,000 |
| Mexico | 5 | 5 | 26,400 | 44 | 42 | 120,000 |
| Netherlands | 26 | 25 | 301,000 | 73 | 70 | 714,000 |
| Panama | 20 | 20 | 24,100 | 20 | 20 | 24,100 |
| Taiwan | -- | -- | -- | 14 | 13 | 18,300 |
| Other (7 countries) ^f | 36 | 35 | 173,000 | 50 | 48 | 270,000 |
| Total | 501 | 487 | 1,060,000 | 1,770 | 1,720 | 3,270,000 |
| Total silicon metal | 2,190 | 2,170 | 110,000,000 | 6,600 | 6,540 | 288,000,000 |

^eEstimated. ^fRevised. XX Not applicable. -- Zero.

¹Presentation of monthly data is based on the year-to-date quantities (gross weight) of the top 10 countries.

²Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 3
U.S. IMPORTS FOR CONSUMPTION OF FERROSILICON AND SILICON METAL IN MARCH 2006^{1,2}

(Metric tons, unless otherwise specified)

| Country | Gross weight | Contained weight | Value | Year to date | | |
|--------------------------------|--------------|------------------|------------|--------------|------------------|------------|
| | | | | Gross weight | Contained weight | Value |
| Ferrosilicon: | | | | | | |
| 55% - 80% silicon, over 3% Ca: | | | | | | |
| Brazil | -- | -- | -- | 20 | 13 | \$24,500 |
| China | -- | -- | -- | 2 | 1 | 2,780 |
| Total | -- | -- | -- | 22 | 14 | 27,300 |
| 55% - 80% silicon, Other: | | | | | | |
| Brazil | 159 | 119 | \$172,000 | 1,750 | 1,300 | 1,290,000 |
| Canada | 1,060 | 801 | 1,000,000 | 2,700 | 2,050 | 2,560,000 |
| China | 11,700 | 8,870 | 7,650,000 | 23,400 | 17,800 | 14,900,000 |
| France | 375 | 252 | 678,000 | 1,320 | 887 | 2,450,000 |
| Germany | 34 | 26 | 149,000 | 117 | 87 | 524,000 |
| Norway | 490 | 363 | 633,000 | 1,450 | 1,080 | 1,940,000 |
| Russia | 4,950 | 3,460 | 3,000,000 | 11,800 | 8,610 | 6,870,000 |
| South Africa | -- | -- | -- | 1,270 | 944 | 718,000 |
| United Kingdom | (3) | (3) | 2,660 | 18 | 12 | 66,600 |
| Venezuela | 7,070 | 5,310 | 4,700,000 | 12,100 | 9,080 | 7,770,000 |
| Other (Kazakhstan) | 14 | 10 | 9,120 | 26 | 12 ⁴ | 16,400 |
| Total | 25,900 | 19,200 | 18,000,000 | 56,000 | 41,800 | 39,100,000 |
| More than 90% silicon, China | -- | -- | -- | 21 | 19 | 6,300 |
| Magnesium ferrosilicon: | | | | | | |
| Argentina | 118 | 53 | 113,000 | 452 | 202 | 431,000 |
| Canada | 644 | 298 | 631,000 | 2,000 | 922 | 1,980,000 |
| France | -- | -- | -- | 539 | 251 | 468,000 |
| Germany | 2 | 1 | 4,060 | 20 | 11 | 34,800 |
| India | -- | -- | -- | 20 | 9 | 18,000 |
| Japan | -- | -- | -- | 32 | 15 | 50,400 |
| Netherlands | -- | -- | -- | 82 | 38 | 60,200 |
| Norway | 1,050 | 474 | 934,000 | 2,530 | 1,150 | 2,260,000 |
| Russia | -- | -- | -- | 2,100 | 943 | 854,000 |
| South Africa | -- | -- | -- | 19 | 9 | 21,400 |
| Other (3 countries) | 335 | 150 | 310,000 | 634 | 285 | 595,000 |
| Total | 2,150 | 976 | 1,990,000 | 8,420 | 3,840 | 6,780,000 |
| Other ferrosilicon: | | | | | | |
| Brazil | 17 | 3 | 23,600 | 43 | 6 | 56,300 |
| Canada | 803 | 224 | 653,000 | 2,240 | 591 | 1,880,000 |
| France | 19 | 19 | 41,900 | 19 | 19 | 41,900 |
| India | -- | -- | -- | 71 | 31 | 59,700 |
| United Kingdom | -- | -- | -- | 1 | 1 | 2,280 |
| Total | 839 | 246 | 718,000 | 2,370 | 649 | 2,040,000 |
| Total ferrosilicon | 28,900 | 20,400 | 20,700,000 | 66,800 | 46,300 | 48,000,000 |

See footnotes at end of table.

TABLE 3--Continued
U.S. IMPORTS FOR CONSUMPTION OF FERROSILICON AND SILICON METAL IN MARCH 2006^{1,2}

(Metric tons, unless otherwise specified)

| Country | Gross weight | Contained weight | Value | Year to date | | |
|---------------------------|--------------|------------------|------------|--------------|------------------|------------|
| | | | | Gross weight | Contained weight | Value |
| Metal: | | | | | | |
| More than 99.99% silicon: | | | | | | |
| Belgium | -- | XX | -- | 5 | XX | \$42,900 |
| China | 2 | XX | \$234,000 | 5 | XX | 669,000 |
| Dominican Republic | -- | XX | -- | 3 | XX | 6,530 |
| France | 5 | XX | 445,000 | 12 | XX | 1,100,000 |
| Germany | 62 | XX | 5,620,000 | 204 | XX | 15,600,000 |
| Italy | 20 | XX | 1,480,000 | 65 | XX | 4,580,000 |
| Japan | 16 | XX | 2,220,000 | 69 | XX | 6,630,000 |
| Korea, Republic of | 4 | XX | 642,000 | 11 | XX | 1,730,000 |
| Spain | 2 | XX | 6,710 | 4 | XX | 26,100 |
| Sweden | -- | XX | -- | 8 | XX | 54,300 |
| Other (6 countries) | 3 | XX | 79,700 | 7 | XX | 365,000 |
| Total | 113 | 113 ^e | 10,700,000 | 393 | 393 ^e | 30,800,000 |
| 99.00% - 99.99% silicon: | | | | | | |
| Australia | 1,480 | 1,470 | 2,190,000 | 3,100 | 3,080 | 4,740,000 |
| Brazil | 2,470 | 2,460 | 3,720,000 | 8,440 | 8,380 | 12,600,000 |
| Canada | 1,000 | 994 | 1,620,000 | 4,310 | 4,280 | 7,000,000 |
| China | 4 | 4 | 6,400 | 4 | 4 | 6,400 |
| Germany | (3) | (3) | 2,250 | (3) | (3) | 2,250 |
| Norway | 818 | 814 | 1,620,000 | 1,650 | 1,640 | 3,340,000 |
| Philippines | 54 | 53 | 60,600 | 236 | 231 | 249,000 |
| South Africa | 2,730 | 2,710 | 3,730,000 | 8,140 | 8,080 | 11,100,000 |
| Sweden | 12 | 12 | 75,000 | 13 | 13 | 82,800 |
| United Kingdom | 57 | 8 | 116,000 | 92 | 18 | 215,000 |
| Total | 8,620 | 8,520 | 13,100,000 | 26,000 | 25,700 | 39,300,000 |
| Other silicon: | | | | | | |
| Belgium | -- | -- | -- | 14 | 13 | 41,500 |
| Brazil | 420 | 415 | 546,000 | 2,020 | 1,990 | 2,980,000 |
| Canada | 802 | 745 | 986,000 | 2,030 | 1,920 | 2,610,000 |
| Japan | 8 | 1 | 10,700 | 15 | 7 | 31,700 |
| Norway | -- | -- | -- | 1,000 | 985 | 1,550,000 |
| Sweden | 22 | 1 | 24,500 | 39 | 1 | 42,500 |
| Ukraine | 591 | 582 | 694,000 | 1,210 | 1,190 | 1,410,000 |
| United Kingdom | 20 | 19 | 31,300 | 80 | 78 | 125,000 |
| Total | 1,860 | 1,760 | 2,290,000 | 6,400 | 6,190 | 8,790,000 |
| Total silicon metal | 10,600 | 10,400 | 26,100,000 | 32,800 | 32,300 | 78,900,000 |

^eEstimated. XX Not applicable. -- Zero.

¹Presentation of monthly data is based on the year-to-date quantities (gross weight) of the top 10 countries.

²Data are rounded to no more than three significant digits; may not add to totals shown.

³Less than ½ unit.

⁴All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau.